



Guidelines for Virtual Technical Assistance and Survey Implementation during the COVID-19 Pandemic



Early in 2020, the COVID-19 pandemic temporarily stopped data collection in all DHS Program countries. One year into the pandemic, the demand for high quality data persists and many host-countries are ready to launch or resume their DHS surveys. The DHS Program is using a variety of methods to provide technical assistance (TA) to implementing agencies (IA) in host countries, and is advising them on next steps for how and when to safely resume survey operations.

The pandemic has presented The DHS Program and its implementing partners with two key challenges:

- 1) how to switch from our traditional model of in-person provision of TA through country visits to a **model that relies on virtual TA** without compromising quality, and
- 2) how to **resume survey operations while protecting staff and respondents** as well as ensuring that national survey implementation does not further drive COVID-19 transmission in host countries.

In adapting to meet these challenges, The DHS Program continues to strive to maintain its core objectives: to support host-country ownership of the survey, to strengthen capacity of the local implementing agency (IA), and to provide high-quality data.

Responding to these new challenges while continuing to meet The DHS Program's objectives is not a simple task and the solutions need to be tailored to the capacities of host-countries. The decision to proceed with the survey must be guided by an assessment of the readiness of IAs to undertake survey activities with virtual TA.

To proceed in this environment stakeholders must be aware that:

- a) despite guidance for risk mitigation, **not all transmission risks can be fully eliminated.** Some elements of DHS surveys, such as biomarker collection, by definition, require close contact between fieldworkers and respondents, and training for these activities requires contact between facilitators and trainees; and
- b) there are **significant monetary costs associated with conducting a survey during a pandemic.** Some costs are predictable, such as procurement of PPE and sanitizers, additional training space, and vehicles to maintain social distancing. Other costs must also be anticipated, such as those associated with discontinuities in training due to unreliable internet connections, disruptions in fieldwork when there is a COVID surge, delays in training of fieldwork when field teams get sick or need to be quarantined, and backlogs at laboratories who must prioritize COVID testing over survey-related biomarker testing.

Despite these challenges, **we believe that quality data collection can and should resume;** however, it is essential that all survey stakeholders have realistic expectations regarding potential problems associated with conducting face-to-face surveys with only virtual TA during a global pandemic that is still largely unchecked in many of our DHS host-countries. This brief provides USAID Missions and other stakeholders information on the specific steps that The DHS Program is taking to enable the continued implementation of DHS, MIS and SPA surveys. The document lays out key strategies to mitigate challenges and alert stakeholders to the implications of these innovative strategies.

Assessing Feasibility of Remote Technical Assistance

The DHS Program is using a country matrix to assess the readiness of DHS host countries to receive remote TA at each stage of the survey continuum. This assessment includes a review of the IAs capacity to successfully manage each survey stage with the necessary degree of independence and quality, as well as factors such as internet connectivity, access to appropriate technology, and other stakeholder priorities. If a host country wishes to delay a survey until such time as it is possible to have full in-person TA from The DHS Program, that preference will be honored. If a country would like to proceed with virtual TA, the matrix will determine the stages for which virtual TA is an acceptable option in that context. There will likely be some situations when a host-country wishes to proceed with virtual TA, but the matrix analysis suggests that they are not ready. In such circumstances, we will share our assessment and consult with all stakeholders to determine the way forward. In an extreme case we may need, with USAID's approval, to withdraw from the survey entirely.



Matrix Results (avg across stages)	Readiness Level	Type of TA
4 (most local capacity)	Ready for virtual TA	Minimal virtual TA from The DHS Program; country can conduct most tasks with minimal oversight
3	Ready for virtual TA	Significant virtual TA from The DHS Program
2	Ready for virtual TA	Significant virtual TA from The DHS Program and some in-person support from a consultant and/or The DHS Program
1 (least local capacity)	Not ready for virtual TA	Substantial in-person TA from The DHS Program required

Readiness will also be assessed by survey stage. That is, some countries will need little assistance in survey or questionnaire design, but may need support for training. These considerations will influence the timing and format of technical assistance and survey implementation.

Risk Mitigation

For each survey, a COVID-19 risk mitigation plan will be developed with the survey IA and other key stakeholder agencies. The plan must take into account both the host-country's Ministry of Health (MOH) guidelines as well as international guidance, and should be designed to be flexible and open to adaptation as both our knowledge of COVID-19 and the shape of the pandemic change over time.



There will be significant local cost implications to COVID-19 risk mitigation. The risk mitigation plan, with its concomitant budget requirements, will form an important part of the survey design process.

The DHS Program has documented a detailed list of possible mitigation activities for all aspects and stages of the survey. Major themes include:

Assessment of guidelines/feasibility: Country COVID-19 situation assessment (data monitoring, review of national/local guidelines, lockdown procedures), risk level assessment for safety of fieldworkers and respondents, and IA's work strategy including agency-specific guidelines on safe practices for IA staff to return to work. Stakeholders should consider the risk of respondents being exposed to infection from fieldworkers, and vice versa, in addition to the degree to which fieldworkers may not be accepted into the community due to infection fear.

Testing and monitoring of symptoms: Initial and repeated COVID testing of all fieldworkers, daily use of screening tools/checklists for fieldworkers, daily temperature checks, systems for contact tracing respondents, staff, and communities in case of infection.

Physical distancing: Budget and plan for additional space to support physical distancing in training venues, survey vehicles, lodging, and during interviews (as much as possible conduct interviews outside or in well ventilated spaces while still maintaining confidentiality). Fieldworkers should socially distance at all times, including in markets, restaurants, and other public areas.

Personal Protective Equipment (PPE): Provision of masks, gloves, hand sanitizer and soap to all survey staff and requirement that they be used; additional PPE for biomarker staff (see page 3); provision of masks for respondents (through local channels).

Treatment of symptomatic/positive individuals: Budget and develop protocols for isolation and transportation of sick fieldworkers; referrals to care for symptomatic individuals; protocol for exclusion of symptomatic respondents from survey.

Sanitization: Develop budget and protocols for cleaning of vehicles, sanitization of reused equipment, training space; Selection of appropriate lodging based on sanitization requirements.

Team structure: Create team "bubbles" in training that remain together through fieldwork to limit group size and cross-contamination; recruit and train additional teams in the case that a team gets sick or must be quarantined; plan field logistics so that they are exposed to as few households as possible.

Compensation: IA should adopt a sick policy that allows people who test positive or must quarantine to receive pay (otherwise there may be an incentive to not disclose symptoms). The survey budget must also allow for this additional cost.

Vaccination: If/when possible, all fieldworkers should be vaccinated against COVID-19.

Infection prevention and mitigation are essential for public health and safety during COVID-19, and The DHS

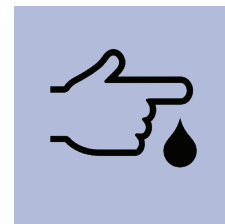
Program surveys should model best practices.

These activities do have major implications for survey budgets, timelines, and logistics.

Stakeholders must consider these issues during survey design and tailor the survey approach to the country context.

Biomarkers

Collection of biomarker data poses additional risks during the COVID-19 pandemic as it requires close proximity and direct contact between trainers and fieldworkers, and ultimately between fieldworkers and respondents. Survey design conversations must determine whether collection of biomarker data is a priority at this time. The DHS Program has identified different challenges and possible mitigations for the collection of biomarkers during the pandemic.



Anthropometry

Best practices for collecting height and weight data (anthropometry) require a standardization exercise. Standardization requires each trainee to measure 10 children twice each and usually takes place at clinics. This amount of physical contact (especially during practice sessions at clinics) is a risk for COVID-19 transmission. Stakeholders should consider whether or not standardization is required at this time, and whether anthropometry data should be collected without standardization.

Hemoglobin

Accurate hemoglobin (for anemia) testing requires training of fieldworkers in capillary blood collection. Poor technique can result in a compromised sample, which can lead to falsely low hemoglobin concentrations. Stakeholders should consider the capacity of the local staff to collect capillary blood, and the availability of local consultants to support training in the event that The DHS Program staff cannot travel to support in-person training.

Response rates

Concern about COVID-19 may negatively impact response rates, especially for biomarker testing. Additional community sensitization should be planned and budgeted to reduce the impact of these fears on participation.

Additional protections for biomarker staff and respondents

Biomarker technicians will require more extensive PPE including gloves, masks, face shields, and goggles. Masks will also be supplied to respondents. Reusable supplies (e.g. Shorr boards for measuring height, scales, blood pressure cuffs) will need to be sanitized between uses.

Supplies

Procurement of all supplies is taking substantially longer during the COVID-19 pandemic, which can result in survey delays, and in extreme cases, expiration of supplies before they are cleared through customs. Additional time is now required to support timely field operations, and the support of a customs clearance agent may be a necessary additional cost.

- **RDTs:** Many rapid diagnostic tests (RDTs), especially those used for malaria, are in reduced production as manufacturers have shifted to COVID-19 testing. Local vendors must be identified, and several months are required to set up purchasing contracts.
- **PPE:** Procurement of basic PPE for all survey staff as well as additional PPE for biomarker staff needs to be secured in advance of the survey; PPE for respondents must be procured locally.
- **Waste disposal:** The additional PPE required for surveys will result in significantly larger amounts of waste that must be safely disposed. DHS will work with the MOH to identify health facilities that can dispose of this waste safely.
- **Training and monitoring of biomarker technicians and labs** requires hands-on, in-person TA. If South to-South (S2S) consultants or other local experts are not available to support training of biomarker technicians and lab staff, The DHS Program advises against including of biomarkers in a survey.
- **Lab-based biomarker testing** may not be available, as many labs are focusing on COVID-19 testing. This is a conflict for countries wishing to include HIV testing in their survey.

Virtual Technical Assistance

The physical presence of DHS staff during key stages of the survey life cycle is an important aspect of DHS TA support. In-person TA supports capacity strengthening, data quality, and helps to build strong relationships and collaboration with the implementing agency, MOH, USAID Missions, and other partners. A typical DHS involves several months of in-person TA throughout the survey process. Some elements of technical assistance are very challenging to provide virtually (e.g. lab training) while others are more flexible (e.g. questionnaire design). The potential success of a virtual TA model is highly dependent on the capacity of the IA, the availability of S2S consultants or other local experts who can support training, and access to reliable internet and technology tools.



The DHS Program has developed innovative methods to support surveys through virtual TA in cases where DHS staff are not able to travel due to COVID-19-related restrictions. One of the most important virtual TA activities is the 'enhanced' training of trainers (TOT). This activity is a comprehensive collaboration between The DHS Program and IA staff to review the content and training methodologies for fieldwork procedures, questionnaire content, the use of CAPI, and biomarker procedures; it is crucial for ensuring high-quality fieldworker trainings. A successful enhanced TOT is essential to ensuring survey data quality and contributes to capacity strengthening, and is a cornerstone of the overall virtual approach. The country matrix will guide the required level and type of technical assistance needed for the survey at each stage. For countries that score at least a 2, design conversations will include identification of appropriate communications and remote training platforms to use throughout the survey.

Considerations for Shifting to Virtual TA:

- **Time:** Additional time will be built into TA schedules, as virtual TA and training will take longer than in-person TA. Extra time will accommodate screen breaks, chunking of material into smaller sections, preparation and practice of virtual sessions, and one-on-one communications with co-facilitators, IA staff, and trainees.
- **Budget:** The DHS Program will help IAs and local funders adjust budgets to accommodate the additional labor required to adapt virtual trainings to each country/survey. Although virtual TA saves travel costs, it does require more labor and it is not yet clear if overall survey costs will be reduced; this will depend on the capacity of the IA and the complexity of the survey.
- **Learning curve:** IA and DHS staff will need time to adapt to the new format; DHS staff are already being trained and master trainers will be available to support these activities.
- **Technology accessibility:** The DHS Program is working to prepare training materials that will work across a variety of platforms. We will work with the IA to choose a platform(s) and tailor materials accordingly.
- **Internet access:** Access to reliable high speed internet is essential, but IA staff may not have access at their offices, homes, or off-site training venues. Budgets can be developed to provide WIFI devices and airtime.
- **Building relationships:** In-person TA provides many opportunities to earn the trust and confidence of IA staff and stakeholders. DHS Program staff will strive to develop these relationships, communicate with all parties, and make sure all voices are heard in a virtual environment.
- **Identification of problems:** Some survey related problems are more easily identified when DHS staff are physically present. The DHS Program will remain in constant communication with the IA to ensure that any concerns are addressed. Open and timely feedback and communication will be required to ensure data quality.

One advantage of virtual TA is that many more and diverse DHS experts can contribute to virtual training than could travel to support in-person training.

Ensuring Quality of Virtual TA

Three minimum quality benchmarks have been identified that would serve as “red flags” for continuation of virtual TA: 1) infrequent or no communication from the implementing agency; 2) problems with internet connectivity; 3) IA does not have required equipment to support virtual TA. If these problems are not overcome, virtual TA can not continue in a country and DHS support of the survey will be paused.



Many of the challenges to survey implementation during COVID-19 have concomitant implications for overall survey quality. The DHS Program will work with IAs to identify and deploy mitigation strategies; a selection are described below.

Challenge	Mitigations
Acceptance in the cluster and/or household (could negatively affect response rates)	Community outreach and sensitization, fieldworker training, updated consent statements, provision of PPE, monitoring of response rates and documentation of COVID-19-related refusals.
Fieldworker infection	Strategy would follow national guidelines and could include isolation and transport to care, contact tracing, and testing of teammates (see Risk Mitigations, page 3).
Rushing interviews (to limit time spent with respondents) can reduce survey quality	Fieldwork monitors will observe interviews and track data quality indicators (interview length, age displacement); Data will also be closely monitoring remotely by DHS Program staff.
Data quality affected by absence of DHS Program staff (leading to reduced training/feedback in interview technique and other field practices)	Use of new training and field monitoring tools to focus on key quality elements (age and date reporting, calendar, maternal mortality, etc); additional time to be spent on review and feedback after training and throughout field check table monitoring
Unwillingness to report illness (i.e. respondent does not want to report fever for fear of COVID-19 stigma)	Additional emphasis on confidentiality and anonymity
Misleading/biased responses regarding health facility visits, dietary changes, domestic violence, etc. COVID-19 may have changed respondents behaviors in these areas, so they may report their pre-COVID experiences, or be unwilling to admit that they did not do a desirable activity.	Reporting of results, and trend analysis in particular, will need to discuss the possible biases in these indicators; interviewer rapport with respondents will be especially important to minimize biased responses.
Measuring COVID-19-related health changes (the pandemic has likely impacted access to health care and daily life; trend data will be affected)	Consider adding questions and/or answer categories to explore the impact of COVID-19 (e.g. as a reason for discontinuing family planning).
Misleading results due to time periods (many DHS indicators are based on events 2-5 years before the survey; this will include some pre-COVID-19 years and some during the pandemic.)	Some indicator time periods may be adjusted to present pre- and post lockdown if there are sufficient number of cases.

Measuring COVID-19 and its impact

Testing for COVID-19 or COVID-19 antibodies is not currently available through DHS surveys. The DHS Program will consider adding some answer categories to standard questions to allow for COVID-19 related responses (e.g. fear of visiting a health facility due to concern about COVID-19, reason for discontinuation of family planning). Depending on sample sizes and survey timelines, analysis of standard DHS data may also shed light on the impacts of COVID-19 in communities, including changes in health seeking behavior, domestic violence, under-nutrition, and mortality.

How can the Mission help?

The DHS Program has always relied on Mission support and communication throughout the survey process, and that collaboration will be even more important during the COVID-19 pandemic. Mission support in the receipt of procured survey equipment and biomarker items would greatly simplify and expedite the shipping and clearing process. Finally, The DHS Program will depend on our colleagues at the Mission to help us make difficult decisions about feasibility of survey operations, the appropriateness of including complex survey elements, and any other concerns that arise regarding data quality or fieldworker/respondent safety.

Conclusions

There continues to be a strong demand for quality population-level data to help countries and global efforts monitor progress towards development goals. Implementing a safe and high quality DHS, MIS, or SPA survey during the COVID-19 pandemic requires innovation and adaptation by The DHS Program, implementing agencies, Missions, and stakeholders. These adaptations have significant implications for cost (at the local level, for TA, and for core DHS operations), survey timelines, quality, and capacity strengthening. Inclusion of biomarker measurement and lab testing will be particularly challenging in this environment. Stakeholders must work together to customize a survey design that incorporates appropriate mitigation activities and remote TA support tailored to the country context based on assessment of IA capacity and local COVID-19 risk.

Case Study: The 2020 Kenya Malaria Indicator Survey

The 2020 Kenya Malaria Indicator Survey (KMIS) is the third recent KMIS implemented by the Kenya Ministry of Health Department of National Malaria Control Program (DNMP) and the Kenya National Bureau of Statistics (KNBS); KNBS has also implemented the 6 previous Kenya Demographic and Health Surveys (DHS). These highly experienced and skilled institutions had a combined overall result of 3.8 on the country matrix; every element scored above 3.6, indicating a survey with minimal need for in-person TA and a perfect first case for virtual TA.

The 2020 KMIS was originally planned to have fieldwork from June to July 2020. As the realities of the COVID-19 situation became clear, the survey pivoted to planning for virtual TA and rescheduled fieldwork for October-December 2020. Survey logistics were recalibrated to include COVID-19 risk mitigation elements (procurement of PPE for fieldworkers, establishing behavioral protocols during training and fieldwork, etc.)

The DHS Program, DNMP, and KNBS worked together on an enhanced, virtual training of trainers (TOT); thereafter DNMP and KNBS took the lead in facilitating the in-person pretest and main training, with daily virtual debriefings/support from The DHS Program. During fieldwork, The DHS Program, DNMP, and KNBS met weekly to review field check tables and discuss the progress of fieldwork, which successfully ended on December 22, 2020. Virtual support will continue throughout 2021.